

### REMARKS

In the Final Office Action dated June 18, 2004, claims 1-13 were rejected under U.S.C. §103(a) as allegedly being unpatentable over the Prior Art Fig. 1 of the present application in view of Finn et al. (U.S. Patent No. 6,351,652).

In response, Applicant has amended claim 1 to correct a minor informality. Applicant requests that the amendment to claim 1 be entered pursuant to 37 C.F.R. §116(b) since the amendment presents the rejected claim 1 in better form for consideration on Appeal. Furthermore, Applicant respectfully asserts that the Examiner has failed to establish a *prima facie* case of obviousness for claims 1-13, and thus, claims 1-13 cannot be deemed to be obvious over the Prior Art Fig. 1 of the present application in view of Finn et al.

In view of the following arguments, Applicant respectfully requests the allowance of the pending claims 1-13.

#### A. Patentability of Independent Claims 1, 7 and 13

As correctly stated in the latest Office Action, "obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art."

In responding to Applicant's arguments filed on April 14, 2004, the latest Office Action has alleged that "the motivation of using ultra wideband [receiver] and transmitter between mobile [node] and access point (e.g., base station) [is] also described in previously cited reference (English US 2003/0036374, see fig. 10 and its description)." Applicant respectfully asserts that the Office Action has failed to meet the required burden of providing some suggestion or motivation to modify the teachings of the cited prior art to derive the claimed invention in order to establish a *prima facie* case of obviousness.

As stated in MPEP 2142 on page 2100-128, "[t]he initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. 'To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.' *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985)."

Fig. 10 and the related description of the cited reference of English disclose a wireless local area network that uses the positioning and tracking capabilities of input radio technology (ultra wideband technology) to improve the roaming scheme. Thus, the cited reference of English may provide a motivation to use ultra wideband receivers and ultra wideband transmitters between mobile communication devices and base station communication devices. However, the cited reference of English DOES NOT provide a motivation to derive the claimed invention, as recited in claim 1.

The amended claim 1 recites, "[a] wireless communication system, comprising: a base station communication device including a carrier wave-based transmitter and further including an ultrawideband receiver; and a mobile communication device including a carrier wave-based receiver and further including an ultrawideband transmitter; wherein carrier wave communications are carried out in a forward channel from said base station communication device to said mobile communication device, and ultrawide band communications are carried out in a reverse channel from said mobile communication device to said base station communication device."

Thus, claim 1 recites a wireless communication system that comprises a base station that includes BOTH a carrier wave-based transmitter and an ultrawideband receiver, and a mobile communication device that includes BOTH a carrier-based receiver and an ultrawideband transmitter. Applicant does not understand how Fig. 10 and the related description of the cited reference of English provide a motivation to derive such a wireless communication system, as recited in claim 1. Since the Office Action has failed to provide ANY explanation in support of the alleged obviousness

with respect to the cited reference of English, Applicant cannot properly respond to the asserted allegation. The cited reference of English does not discuss carrier-based transmitters and receivers, and certainly does not discuss anything related to *"wherein carrier wave communications are carried out in a forward channel from said base station communication device to said mobile communication device, and ultrawide band communications are carried out in a reverse channel from said mobile communication device to said base station communication device"*, as recited in claim 1. Therefore, Applicant respectfully asserts that the cited reference of English does not provide a motivation to modify the teachings of the cited prior art to derive the claimed invention, as recited in claim 1.

The Office Action has also again alleged that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the impulse radio technique of Finn et al. in the prior art wireless communication system (Fig. 1 of present application) "in order to utilize very low power transmission in telecommunication system." The cited reference of Finn et al. discloses a base station (1016) that includes an impulse radio receiver (1018) and an impulse radio transmitter (1020), and a remote impulse radio (1030) that includes an impulse radio transmitter (1032) and an impulse radio receiver (1034). However, there is no suggestion or motivation found in the cited reference of Finn et al. to derive the claimed invention, as recited in claim 1. Specifically, there is no suggestion or motivation in the cited reference of Finn et al. to selectively include the impulse radio receiver in a base station communication device that includes a carrier wave-based transmitter such that the base station communication device includes BOTH a carrier wave-based transmitter and an impulse radio receiver, or to selectively include the impulse radio transmitter in a mobile communication device that includes a carrier wave-based receiver such that the mobile communication device includes BOTH a carrier wave-based receiver and the impulse radio transmitter, as recited in claim 1.

The unsupported statement of "in order to utilize very low power transmission in telecommunication system" asserted in the Office Action is not a valid suggestion or motivation since the statement would not motivate one of ordinary skill in the art to modify the prior art wireless communication system (Fig. 1 of present invention) such that a base station includes BOTH a carrier wave-based transmitter and an

ultrawideband receiver and a mobile communication device includes BOTH a carrier wave-based receiver and an ultrawideband transmitter. As stated above, the cited reference of Finn et al. discloses a base station (1016) that includes both an impulse radio receiver (1018) and an impulse radio transmitter (1020), and a remote impulse radio (1030) that includes both an impulse radio transmitter (1032) and an impulse radio receiver (1034). Thus, the cited reference of Finn et al. may motivate one of ordinary skill to include both an impulse radio receiver and an impulse radio transmitter in a base station and a remote impulse radio. However, the cited reference of Finn et al. DOES NOT provide a motivation to selectively include an impulse radio receiver or an impulse radio transmitter to a base station communication device and a remote communication device that already include both a carrier wave-based transmitter and a carrier wave-based receiver. Thus, the cited reference of Finn et al. does not provide a motivation to derive the claimed invention, as recited in claim 1. Consequently, Applicant respectfully asserts that the amended independent claim 1 is not obvious over the Prior Art Fig. 1 of the present application in view of Finn et al.

The independent claims 7 and 13 recite similar limitations, and thus, the above remarks are also applicable to those claims. Therefore, Applicant respectfully asserts that claims 7 and 13 are also not obvious over the Prior Art Fig. 1 of the present application in view of Finn et al., and requests the allowance of claims 7 and 13.

#### B. Patentability of Dependent Claims 2-6 and 8-12

Each of the dependent claims 2-6 and 8-12 depends on one of the independent claims 1 and 7. As such, these dependent claims include all the limitations of their respective base claims. Therefore, Applicant submits that these dependent claims are allowable for at least the same reasons as their respective base claims.

Applicant respectfully requests reconsideration of the claims in view of the amendment and remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted,



Date: August 17, 2004

Thomas H. Ham  
Registration No. 43,654  
Telephone: (925) 249-1300